

Having thus described the preferred embodiments, the invention is now claimed to be:

1. A golf ball comprising:
a solid core formed from a core composition including a polybutadiene rubber exhibiting a solution viscosity of at least about 90 mPa•s.
2. The golf ball of claim 1, wherein said core exhibits a coefficient of restitution of at least about 0.780.
3. The golf ball of claim 2, wherein said solution viscosity value of said polybutadiene rubber is related to said coefficient of restitution value of said core so that the higher the value of said solution viscosity, the higher the value of said coefficient of restitution.
4. The golf ball of claim 3, wherein said polybutadiene rubber exhibits a Mooney viscosity of from about 38 to about 52.
5. The golf ball of claim 1, wherein said golf ball also comprises a cover covering the core, wherein the cover has one or more layers.
6. The golf ball of claim 1, wherein said polybutadiene rubber has a cis-1,4 content of at least about 96%.
7. The golf ball of claim 1, wherein said core further comprises a second polybutadiene rubber.
8. The golf ball of claim 1, wherein said polybutadiene rubber has a solution viscosity of at least about 130 mPa•s.
9. The golf ball of claim 2, wherein said core exhibits a coefficient of restitution of at least about 0.785.

10. A golf ball comprising:

a solid, molded core formed from a core composition including a polybutadiene rubber exhibiting a solution viscosity of at least about 90 mPa·s, said core exhibiting a coefficient of restitution of at least about 0.783.

11. The golf ball of claim 10, wherein said polybutadiene rubber has a cis-1,4 content of at least about 96%.

12. The golf ball of claim 10, wherein said solution viscosity value of said polybutadiene rubber is related to said coefficient of restitution value of said core so that the higher the value of said solution viscosity, the higher the value of said coefficient of restitution.

13. The golf ball of claim 10, wherein said core further comprises a second polybutadiene rubber.

14. The golf ball of claim 10, wherein said polybutadiene rubber exhibits a Mooney viscosity of from about 38 to about 52.

15. The golf ball of claim 10, wherein said polybutadiene rubber has a solution viscosity of at least about 130 mPa·s.

16. A method for making a molded core exhibiting a particular coefficient of restitution value comprising:

selecting a polybutadiene rubber exhibiting a particular solution viscosity value; and

forming a core from said polybutadiene rubber, said core exhibiting a coefficient of restitution value related to the value of said solution viscosity of said polybutadiene rubber.

17. A core formed from the method of claim 16.

18. The method of claim 16, wherein the value of said coefficient of restitution of said core is higher as the value of said solution viscosity exhibited by said polybutadiene rubber is increased.

5 19. The method of claim 16, wherein said polybutadiene rubber exhibits a Mooney viscosity of from about 38 to about 52.

20. The method of claim 16, wherein said polybutadiene rubber exhibits a solution viscosity of at least about 90 mPa•s.